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Abstract of thesis (Ph. D.) Cornell university.

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Abstract of Thesis

An analysis of achievements of certain University of Nebraska students who offered Vocational Agriculture as credit for entrance; compared with achievements of a similar group who offered the traditional entrance subjects

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An Abstract of a Thesis

PRESENTED TO THE FACULTY OF
THE GRADUATE SCHOOL OF CORNELL UNIVERSITY
ITHACA, NEW YORK

IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY

HARRY E. BRADFORD

June, 1932

Abstract of Thesis

Purpose of Study: It has been said frequently that the student, who chooses the vocational subjects in high school and college, does so because he cannot successfully study the pure sciences and the humanities. The purpose of this thesis was to test some of the implications in the above statement. Through a series of case studies, an attempt was made to determine whether the students who tend to seek the concrete and the vocational subjects, as a rule, give indications of a lower degree of mental ability. The measures were grades of teachers in high school and college courses, extent of participation in college activities, honors received in college and occupations entered after leaving college.

What The Comparison of The Two Groups Was Intended to Show:

1. The relative scholastic abilities in all subjects, English, foreign language, natural science, social science, and mathematics.

2. Relative persistence in college attendance.

3. Possibilities of leadership ability, as evidenced by scholarship, participation in college activities and the number and character of college honors received.

4. Relative ability, as judged by the occupations followed by members of the groups after graduation.

5. The relation, if any, between the choice of larger numbers of units of high school vocational agriculture and success in college subjects.

6. The extent to which the occupations of the fathers had an influence in determining choice of college or college courses.

7. The extent to which the curriculum in vocational agriculture shows any guidance effects in determining choice of college, length of time spent in college or decision not to go to college.

8. The extent to which vocational agriculture content is equal to academic content as preparation for successful participation in college courses.

How The Cases Were Selected :

From the records in the office of the registrar of the University of Nebraska, two groups of male students were selected, equal in number and approximately equal in high school educational opportunities. One group, 250 in number, offered from 1 to 8 units each of vocational agriculture as a part of their high school credits for entrance to the University. The limits of this group were set by including the records of all students entering, with one or more units of vocational agriculture as entrance credit, between the years 1918-1919 and 1930-1931. These students were designated as Group One in the study.

The check group was composed of 250 University of Nebraska students who did not take vocational agriculture in high school. Its members were selected by chance from a larger body of students who were in attendance between the years 1918-1919 and 1930-1931. This group was designated as Group Two.

COMPARISION OF THE TWO GROUPS AS TO GRADES EARNED IN HIGH SCHOOL

HIGH SCHOOL GRADES

Subjects	*Average* Groups		*Median* Groups		*Total Range of Grades* Groups	
	One	Two	One	Two	One	Two
All subjects	84.3	84.6	85.7	85.08	70-96	72-96
English	83.7	84.6	84.2	86.6	72-98	71-96
Foreign Language	83.5	83.7	84.2	85.1	70-98	70-97
Mathematics	83.8	85.3	84.8	86.1	70-98	70-97
Natural Science	83.6	84.4	85.3	85.5	71-98	71-97
Social Science	84.2	84.4	85.1	86.2	70-98	70-97
Agriculture	85.5	82.3	86.8	87.0	73-98	73-97
Age at Graduation	18.1	18.1	18.4	18.5	15-31	15-23

According to the measures shown in the above table, the two groups were found to be practically equivalent as to grades received in high school subjects and age at graduation. Differences of less than one per cent can hardly be taken as indications of superiority for one group or the other.

A COMPARISON OF AGRICULTURAL AND NON-AGRICULTURAL GROUPS AS TO MENTAL ABILITY

Since no intelligence quotients for our two groups of University of Nebraska students were available, a new sampling was taken from the larger body of high school students from which the original groups came. The aim of this part of the study was to submit data which would serve as a basis for a comparison of the mental abilities of vocational and non-vocational groups of students.

Selection of Schools for New Sampling.

Terman Group Intelligence Tests, Form B, were given to all members of the agricultural classes and to check groups of the same number in five Nebraska high schools. The check groups were selected by chance from the remainder of the boys in the high schools, excluding all those who had at any time enrolled in classes in vocational agriculture. These two groups were designated as the Agricultural Group and the Check Group. Further informaton was secured through a questionnaire dealing with college activities, honors and awards received and occupations entered after leaving college.

SUMMARY BASED ON DATA FROM FIVE HIGH SCHOOLS

The medians of the intelligence quotients of the two groups of students from five high schools are as follows :

Agricultural Group	93
Check Group	101

In each of the five high schools, the Check Group outranked the Agricultural Group as to mental ability from 3.6 to 13 points based on intelligence quotients derived from the Terman Group Tests, Form B. The Agricultural Group had 57 members or 38.1 per cent, and the Check Group 31 or 18.8 percent with

intelligence quotients below 80. Six students or 3.7 per cent of the Agricultural Group and 30 or 18.2 per cent of the Check Group were ranked as superior students with intelligence quotients above 120.

Sixty-two members or 38.4 per cent of the Agricultural Group and 99 or 60.7 per cent of the Check Group indicated an intention of attending college.

A COMPARISON OF THE COLLEGE ACHIEVEMENTS OF THE TWO GROUPS OF UNIVERSITY OF NEBRASKA STUDENTS KNOWN AS GROUPS ONE AND TWO

General Tendencies of the Two Groups

One hundred nine members of Group One and 39 from Group Two entered the Agricultural College. Thirty eight from Group One and 88 from Group Two chose the College of Arts and Science. Seventy-three students or 29.2 per cent of Group One, and 63 or 25.2 per cent of Group Two were graduated from the University of Nebraska. Thirteen from Group One and 14 from Group Two were asked to withdraw on account of poor scholarship. The modal age of entrance to college for Group One was 18 and for Group Two 19.

Achievements as Measured by Grades in College Courses.

	Group One	*Group Two*
All Hours of College Credit	78.1	76.8
English	76	76.5
Mathematics	76.2	75.4
Economics	75.9	75.3
Natural Science	75.2	75.4
Agriculture	81.4	80.5

Conclusions Based on College Achievements of Groups One and Two.

Based on the general equality of grades earned in all college hours of credit, mathematics, economics, natural science, and "other subjects", the conclusion was reached that intellectual leaders might be expected to come from Group One in as large numbers as from Group Two. The choice of vocational agriculture in high school seemed to indicate no inferiority in ability to do abstract thinking.

Group One will probably produce a greater number of farmers and agricultural scientists than Group Two. Evidence to support this conclusion was found in the fact that 109 members of Group One in contrast with 39 from Group Two enrolled in the College of Agriculture.

A Study of the Two Groups of University of Nebraska Students to Determine Certain Relationships as to College Activities, Scholarship and Honors Received.

This chapter of the thesis was devoted to an analysis of certain phases of college life, other than scholarship, in connection with the two groups of University of Nebraska students whose records were examined. The following conclusions were based on the tables of figures taken from the answers to a questionnaire.

Conclusions.

The members of Group One engaged in more college activities than did those who belonged to Group Two. Music had greater attraction for students from Group One than for those from Group Two.

College awards and prizes went to Group One in numbers far greater than those which went to Group Two. It deserves explanation, however, that medals and prizes are awarded to students from the Agricultural College more often than to students of other colleges.

Group Two won more honors in college than did Group One. The majority was small but the honors were of importance.

Group Two included the larger number of members who entered the professions, which ordinarily require characteristics of leadership for success.

The numbers from both groups, which are engaged in small business callings and in labor of various kinds, lead one to draw the conclusion that, for some of these individuals, a college education was not vocationally useful. Aside from the cultural benefits, probably many of these young men would have profited to a greater degree from a year in a trade school or a business college.

Conclusions Drawn From Other Studies of Relative Abilities and Achievements of Vocational and Non-Vocational Groups of Students.

Earl M. Knepp of the Kansas State College of Agriculture and Applied Science made a comparative study of vocational and non-vocational students in Kansas. He reported that the students who took vocational agriculture in high school earned college grades which were slightly higher than those earned by students who chose the traditional high school subjects. Lester D. Maddox, in a similar study with students from the University of Missouri, found that in most college subjects, the vocational group ranked higher than the non-vocational group. In the Kansas and Missouri studies, the vocational groups showed greater superiority than was disclosed by the Nebraska data in this thesis. A Master of Science thesis written by O. M. Clark of Cornell University, gave conclusions regarding vocational and non-vocational groups, which were very similar to the conclusions drawn from the Nebraska data.

Appendix.

The appendix contains a description of the geography and agriculture of Nebraska, written for the purpose of furnishing information to the reader concerning Nebraska agricultural and economic conditions. It was not intended that the descriptive material should be used in any way as data from which conclusions might be drawn regarding the abilities of vocational and non-vocational students.

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